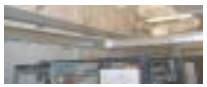
Hardware Demonstration of Distributed Resources for Feeding Sensitive Loads

Objective

To enable efficient micro-source distributed generation systems to provide high quality premium power for critical loads

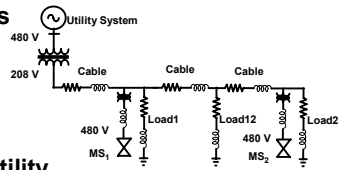
Year 1 (2001) Tasks

- Developed power inverter to provide utility grade power
- Developed laboratory scale microgrid infrastructure

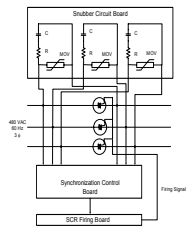


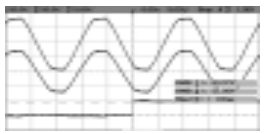
Year 2 (2002) Tasks

- Expansion of laboratory scale microgrid to allow utility interface with two inverters

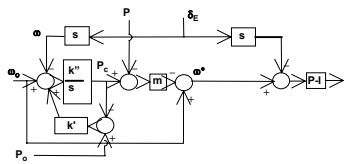


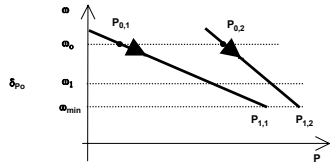
- Development of static switchgear for utility interconnection in a microgrid





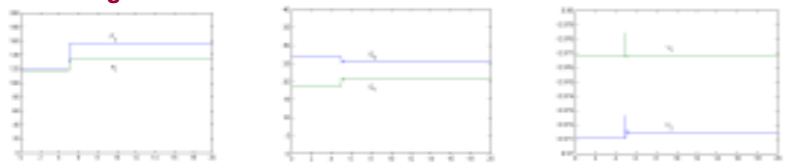
- Seamless parallel operation of distributed resources



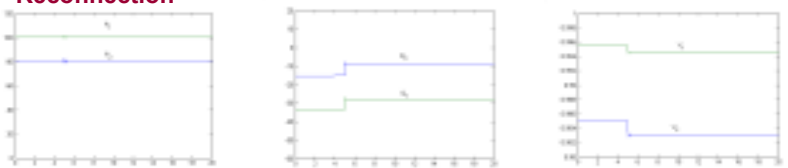


- Demonstration of islanding and reconnection with the grid

Islanding



Reconnection



Year 3 (2003) Tasks

- Interface of the utility with three inverters to complete the laboratory expansion of the microgrid
- Complete demonstration of the three inverter decentralized control operating on the microgrid
- Demonstrate the mitigation of power quality problems in the microgrid
- Investigate a safe system operation under faulted conditions on the microgrid

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